

**ABSTRACT**

A linear displacement system (10) for a base carriage (3) mounted so that it can be displaced freely on a flat floor surface (8) comprises a drive unit (12) for controlled pulling and/or pushing of the base carriage (3) relative to the floor surface (8) and a guide frame (11), which spans the movement space of the base carriage (3) in the movement direction (Y). According to the invention, the linear displacement system (10) has a motor carriage (15) which can be displaced freely on the flat floor surface (8) and can be displaced relative to the guide frame (11) with the aid of the drive unit (12); the base carriage (3) is joined to the motor carriage (15) rigidly or via an articulation (16). This configuration of the linear displacement system (10) ensures weight relief of the guide frame (11) since components of the drive unit (12) with heavy weights can be mounted on the motor carriage (15) which is supported relative to the floor surface (8).

The linear displacement system (10) is suitable, in particular, for use in a motion unit (1) for a driving simulator (2) to generate motion effects on test persons.